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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,818	03/15/2001	Ryuichi Murai	NAK1-BO22	5636

7590
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03/21/2003

EXAMINER

MACCHIAROLO, PETER J

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,818

Applicant(s)

MURAI ET AL.

Examiner

Peter J Macchiarolo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 1-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt of the claim for foreign priority is acknowledged.

Amendment

2. Receipt is acknowledged of the preliminary amendment to the claims, which removes improper multiple dependent claims. It has been entered and considered.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on June 11, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the Examiner.

Drawings

4. The Drawings are objected to because of the following informalities:
5. Figures 11-14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
6. Further, figure 2 recites " $\phi 2 > \phi 2$." However, page 12 line 21 of the Specification recites $\phi 1 > \phi 2$. The Examiner is interpreting the equality recited in figure 2 as a typographical error.
7. Further, the drawings are objected to under 37 CFR 1.83(a) because they fail to show reference number "60" as described in the specification. Any structural detail that is essential for

a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

8. Further, the drawings are objected to because they do not show every feature of the invention specified in the claims. Therefore, the cut upper corners of claims 8-9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

9. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objections to the drawings will not be held in abeyance.

Specification

10. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

11. Further, page 18 lines 18-19 recites, "the center of the extension may be triangular having a cute angle." The Examiner is interpreting this as ... "having an acute angle."

Appropriate correction is required.

Claim Objections

12. Claims 1-17 are objected to because of the following informalities: The claim structure used by Applicant does not conform to standard U.S. practice, and is difficult to interpret. See MPEP §608(i, ¶e).

13. The Examiner recommends the following claim structure:

[Preamble] [transitional phrase]:

[limitation X];

[limitation Y]; and

[limitation Z].

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Because the claims are so indistinct and unclear, the Examiner is interpreting the independent claims generally as follows:

Claim 1: A CRT comprising a beam trajectory deflection means which deflects an electron beam in a direction opposite to an electron beam deviation.

Claim 2: A CRT comprising a magnetic flux, which proceeds in a general direction of a tube axis.

Claim 3: The magnetic shield has $B_1 > B_2$. (B=magnetic flux density, 1=vertical direction 2=horizontal direction).

Claim 4: The magnetic shield has $R1 > R2$ (R =curvature of a magnetic flux).

Claim 5: The magnetic shield has $B1 > \phi 2$ (ϕ =magnetic flux).

Claim 6: The magnetic shield has $R1 > R2$, and $R1_{\text{center}} > R2_{\text{edge}}$.

Claim 7: The magnetic shield has $H1 > H2$ (H =height).

Claim 10: A CRT comprises:

a shadow mask;

an internal support frame for supporting the shadow mask and a magnetic shield;

wherein the magnetic shield is pyramidal-shaped and has an extension at a center of both horizontal long sides of the magnetic shield, the extension being higher than both short sides of the magnetic shield.

16. Further, the limitation, “two upper corners of each of the two sides facing in the vertical scanning direction are cut” in claim 8 is a relative limitation which renders the claim indefinite. The terms “upper” and “cut” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

17. Further, the limitation, “...which gradually decreases in a direction from the entrance toward the mask” in claim 13 is a relative limitation which renders the claim indefinite. The term “decreases” is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

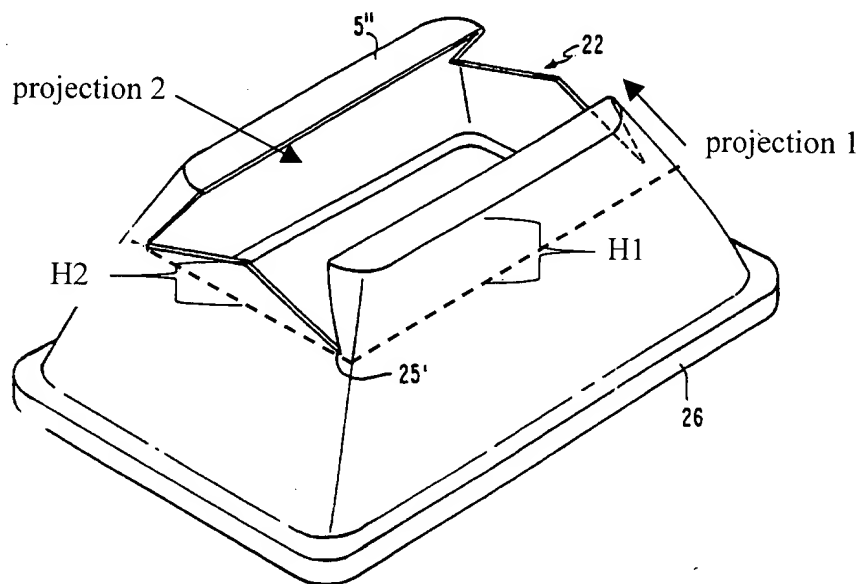
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
19. Claims 1-7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Mensvoort (USPN 5,363,010).
20. In regards to claims 1-7, Van Mensvoort discloses in figure 8, a CRT comprising a beam trajectory deflection means (5) which deflects an electron beam in a direction opposite to an electron beam deviation, and further that an equivalent height H1 is greater than an equivalent height H2 (see below).
21. Van Mensvoort is silent to the exact properties of the magnetic shield particular regards to a magnetic flux's propagation in the CRT, the relationship of magnetic flux density, and the curvature of the magnetic flux.

22. However, one of ordinary skill in the art can see that Van Mensvoort's shield comprises a magnetic flux which proceeds in a general direction of a tube axis, and further, that the shield has $R1 > R2$, $B1 > \phi 2$, $R1 > R2$, and $R1_{center} > R2_{edge}$, and these properties are inherent to the shape and structure of the shield.

23. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the magnetic shield of Van Mensvoort, including the above properties, since it is well known in the art that these properties are inherent to the shape and structure of the shield.



24. In regards to claim 10, Van Mensvoort discloses in figure 8, a CRT comprising a pyramidal-shaped internal magnetic shield (5) having an extension (5'') at a center of both horizontal long sides of the shield, and the extension is higher than both short sides (25) of the shield. Van Mensvoort further discloses in figure 1, the CRT includes a mask (8).

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25. Van Mensvoort is silent to the CRT having a support frame.

26. However, it is well known in the art that a CRT having an internal magnetic shield and a shadow mask assembly must be configured to include a frame to properly support the assembly.

27. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the CRT assembly of Van Mensvoort, including a support frame, since it is well known in the art that a CRT having an internal magnetic shield and a shadow mask assembly must be configured to include a frame in order to properly support the assembly.

28. Claims 8-9, and 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Mensvoort (USPN 5,363,010) in view of Maehara (USPN 6,020,678).

29. In regards to claims 8-9, Van Mensvoort teaches all of the recited limitations of claim 7 (above).

30. Van Mensvoort is silent to the two upper corners being cut.

31. However, Maehara teaches in figure 2a that the two upper corners (20₁, and 20₂) are cut and that a horizontal length of each cut is less than half of a horizontal length of the two sides facing in the vertical scanning direction. Maehara further teaches in column 2 lines 23-30, that this configuration increases the total shielding effect of the internal magnetic shield.

32. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the shield of Van Mensvoort, including the cut corners of Maehara, since Maehara teaches that this configuration increases the total shielding effect of the internal magnetic shield.

33. In regards to claims 11-17, Van Mensvoort teaches all of the recited limitations of claim 10 (above). Van Mensvoort further teaches in figure 8 that the extensions have a plurality of projections (see above) that are rectangular. Van Mensvoort further teaches in column 1 lines 26-28, that a plurality of tensed wires are spanned between a pair of opposite sides of the frame.

34. Van Mensvoort is silent to each of the two short sides has a cut which gradually decreases in a direction from the entrance toward the mask.

35. However, Maehara teaches in figure 4b that each of the two short sides (17a, 17b) has a cut (20a', 20b') which gradually decreases in a direction from the entrance toward the mask and has two cutting angles. Maehara further teaches in column 2 lines 23-30, that this configuration increases the total shielding effect of the internal magnetic shield.

36. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the shield of Van Mensvoort, including the short sides of Maehara, since Maehara teaches that this configuration increases the total shielding effect of the internal magnetic shield.

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,773,924 to Nakamura published June 30, 1998, U.S. Patent 6,388,368 to Matsudate et al published May 14, 2002, and U.S. Patent 5,434,470 to De Wit et al published July 18, 1995, all disclose a CRT with an internal magnetic shield similar to Applicant's.

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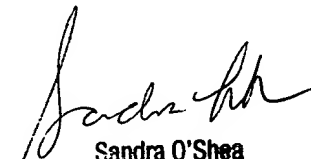
38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198.

The examiner can normally be reached on 7.30 - 4:30, M-F.

39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

40. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
March 14, 2003


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800